

CLAIMS:

1. A cast-cutter for use in removing a cast from a patient, said cast-cutter comprising:

5 a body; and

a cutting assembly mountable on the body and comprising first and second relatively moveable cutting members each defining a cutting edge and an inner face, wherein the first and second cutting members are adapted to permit cooperation between the respective cutting edges to cut by a shearing action while maintaining the inner faces in non-engaging relationship to provide clearance therebetween.

2. A cast-cutter according to claim 1, wherein the first and second cutting members of the cutting assembly are arranged such that during a cutting operation the cutting edges are aligned with a projected cutting plane.

3. A cast-cutter according to claim 1 or 2, wherein an inner face of at least one of the cutting members is inclined outwardly from a projected cutting plane in order to provide clearance between the inner faces when the cutting assembly is operated.

4. A cast-cutter as claimed in claim 1, 2 or 3, wherein the inner face of both cutting members are outwardly inclined from the projected cutting plane in order to provide clearance between said faces when the cutting assembly is operated.

5. A cast-cutter as claimed in any preceding claim, wherein one of the first and second cutting members is fixed relative to the body, and the other cutting member is moveable.

6. A cast cutter as claimed in any preceding claim, wherein one of the cutting members is pivotally mounted relative to the other cutting member.

7. A cast-cutter as claimed in any preceding claim, wherein the cutting assembly comprises a support member adapted to support the first and second cutting members.

8. A cast-cutter as claimed in claim 7, wherein the support member is adapted to fixedly support one of the first and second cutting members and to moveably support the other cutting member so that relative movement between the first and second cutting members may be achieved.

9. A cast-cutter as claimed in claim 7 or 8, wherein one cutting member is integrally formed with the support member.

10. A cast-cutter as claimed in claim 7 or 8, wherein one cutting member is separately formed and rigidly secured thereto.

11. A cast-cutter as claimed in claim 9 or 10, wherein the other of the first and second cutting members is moveably supported on the support member by being pivotally coupled thereto.

12. A cast-cutter as claimed in claim 11, wherein the pivotally mounted cutting member is coupled to the support member by means of a pivot pin arrangement.

13. A cast-cutter as claimed in any preceding claim, wherein the cutting assembly is adapted to be releasably mountable on the body of the cast-cutter.

14. A cast-cutter as claimed in any preceding claim, wherein the cutting assembly is adapted to be secured to the body in alternate directions such that the cast-cutter may be used to cut a cast in at least two directions.

15. A cast-cutter as claimed in any one of claims 7 to 14, wherein the support member of the cutting assembly is adapted to be mountable on the body of the cast cutter in order to secure the cutting assembly thereto.

16. A cast-cutter as claimed in any preceding claim, wherein the cutting assembly further comprises biasing means for biasing at least the cutting edges of the first and second cutting members laterally together.

5 17. A cast-cutter as claimed in claim 16, wherein the biasing means comprises spring biasing means.

10 18. A cast-cutter as claimed in claim 16 or 17, wherein the biasing means is provided by one or both of the first and second cutting members by providing one or both members with a longitudinal curvature or profile.

19. A cast-cutter as claimed in any preceding claim, wherein the respective cutting edges of the first and second members are provided as or on separate inserts which are secured to the first and second members respectively.

15 20. A cast-cutter as claimed in any preceding claim, wherein, in use, one of the first and second cutting members is adapted to be positioned underneath a cast, between the cast material and the skin of a patient.

20 21. A cast-cutter as claimed in any preceding claim, wherein the cutting assembly is adapted to be coupled to a drive means via a drive mechanism, wherein the drive mechanism transmits motion from the drive means to the cutting assembly for causing relative movement between the cutting members to effect cutting.

25 22. A cast-cutter as claimed in claim 21, wherein the drive mechanism is adapted to reciprocate.

30 23. A cast-cutter as claimed in claim 22, wherein the drive mechanism comprises a reciprocating drive pin coupled to the drive means by a suitable transmission arrangement, and also coupled to one of the cutting members.

24. A cast-cutter as claimed in claim 21, wherein the drive mechanism is adapted to rotate or oscillate.

5 25. A cast-cutter as claimed in any one of claims 21 to 24, wherein the drive mechanism is adapted to terminate the connection between the drive means and the cutting assembly upon reaching a predefined force exerted by the cutting assembly.

10 26. A cast-cutter as claimed in claim 25, wherein the drive mechanism comprises a slip pin or shear pin coupling arrangement adapted to be activated or sheared when the predefined force is reached.

27. A cast-cutter as claimed in any preceding claim, wherein the cutting assembly is operated by electric drive means.

15 28. A cast-cutter as claimed in claim 27, wherein the electric drive means comprises an electric motor.

20 29. A cast-cutter as claimed in claim 28, wherein control circuitry is provided and adapted to permit the required control of the electric motor to be achieved.

30 30. A cast-cutter as claimed in claim 29, wherein the control circuitry incorporate safety tripping circuits.

25 31. A cast-cutter as claimed in claim 28, 29 or 30, wherein the electric motor comprises braking means adapted to prevent movement of the cutting means when the cast-cutter is deactivated.

30 32. A cast-cutter as claimed in claim 31, wherein the braking means is provided by permitting the electric motor to be short-circuited to generate a transitory back e.m.f. to rapidly stop rotation of the motor.

33. A cast-cutter as claimed in claim 32, further comprising one or more electrical resistors through which the electric motor may be short-circuited.

5 34. A cast-cutter as claimed in any preceding claim, further comprising visual signal means which are activated when power is supplied thereto.

35. A cast-cutter as claimed in any preceding claim, wherein the cast-cutter is activated by activating a main switch, and deactivated by releasing said main switch.

10 36. A cast-cutter as claimed in claim 35, wherein the cast-cutter comprises at least one safety switch which must be activated before the cast-cutter can be operated by the main switch.

15 37. A cast-cutter as claimed in claim 36, wherein the cast-cutter comprises two safety switches, wherein at least one of the two safety switches must be activated before the cast-cutter may be operated by the main switch.

20 38. A cast-cutter as claimed in claim 37, wherein one of the two safety switches is positioned on the cast-cutter to permit ease of use by a right-handed operator, and the other of the two safety switches is positioned to permit ease of use by a left-handed operator.

25 39. A cast-cutter as claimed in any preceding claim, further comprises a safety guard disposed around the cutting assembly.

40. A method of removing a cast from a patient, said method comprising the steps of:

providing a cast cutter according to any preceding claim;

30 manipulating the cast-cutter to position a cast material to be removed from a patient between the first and second cutting members; and

activating the cast-cutter to cause relative movement of the first and second cutting members to cause the cast material to be cut by cooperation of the cutting edges.

- 5 41. A switching arrangement for use with a hand operated device having a central plane, said arrangement comprising:

 a primary operating switch mounted substantially on said plane;

 a first secondary operating switch mounted to be offset from said plane in a first direction; and

- 10 a second secondary operating switch mounted to be offset from said plane in an opposite second direction;

 wherein the primary operating switch may be activated to operate the hand operated device when at least one of the first and second operating switches is activated.